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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/651,933	08/31/2000	William H. Savage	012875-11	3410

7590

07/17/2002

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EXAMINER

SOLAIMAN, SHIREEN I

ART UNIT PAPER NUMBER

2175

DATE MAILED: 07/17/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/651,933	Applicant(s) SAVAGE ET AL.	
	Examiner Shireen I Solaiman	Art Unit 2175	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-39 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

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DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

2. The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1-6, 14-19 and 27-32 are rejected under 35 U.S.C. 102(e) as being anticipated by Weissman et al. (U.S. Patent# 6,212,524).

As to claim 1, Weissman et al. discloses a method of obtaining the metadata (see column 5, lines 14-25) of a data source, comprising:
creating a data repository having an entity structure which defines the metadata characteristics of a generic model data source (see column 7, lines 35-38, and column 5, lines 32-35);
accessing the data source to determine its construct (see column 10, lines 25-26);

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configuring the data repository entities to reflect the construct of the data source(see column 10, lines 33-35); and

analyzing the data source in response to the configured data repository entities to obtain the source metadata (see column 10, lines 38-40).

As to claims 2, 15 and 28, Weissman et al. discloses wherein the entity structure of the data repository is independent of the construct of the data source (see column 7, lines 40-42).

As to claims 3, 16 and 29, Weissman et al. discloses wherein the entity structure of the data repository comprises plural entities (see abstract, line 2, plural entities reads on tables), each of the plural entities corresponding to a different aspect of a generic model data source (see column 5, lines 32-35), and each having atomic elements corresponding to the metadata attributes of a generic entity, whereby the plural entities collectively define the metadata characteristics of a generic model data source (see column 3, lines 1-11).

As to claims 4, 17 and 30, Weissman et al. discloses wherein the step of analyzing includes:

obtaining, from the data source, those elements of source data which correspond to the metadata attributes of the configured data repository entities (see column 11, lines 8-10); and recording the obtained elements of source data in the data repository, each in association with their corresponding metadata attribute (see column 8, lines 15-16).

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As to claims 5, 18 and 31, Weissman et al. discloses wherein the step of analyzing further includes:

inferring selected aspects of the data source structure on the basis of the recorded elements of source data, and recording the inferred data source aspects in the data repository (see column 7, lines 40-42);

presenting the inferred data source aspects for review by an operator (see column 9, lines 61-67);

and modifying the inferred data source aspects in response to command of the operator (see column 17, lines 62-64 , column 18, lines 3-5 and lines 12-13 and 26-27).

As to claims 6, 19 and 32, Weissman et al. discloses wherein the data repository entities include at least one each of a database entity (see column 16, lines 61-64), a table entity (see column 13, lines 25-30), and a column entity (see column 13, lines 42-48), each thereof having plural metadata attributes, and each thereof having an associated child property entity, each the child property entity being capable of receiving therein additional metadata attributes to be associated with its parent entity, as provided by an operator, thereby permitting modification of the parent entity attributes without altering the data repository entity structure (see column 11, lines 27-39).

As to claim 14, Weissman et al. discloses Apparatus for obtaining the metadata (see column 5, lines 14-25) of a data source, comprising:

a graphical user interface (GUI) (see Fig 8, 9 , 10), responsive to commands entered by an operator; and

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an analysis signal processor, responsive to the GUI, and adapted for connectivity to the data source (see fig. 10, source table customer and source column region_code), the analysis signal processor having a memory medium for storing signals, including program signals; the analysis signal processor, in response to the program signals:

creating a data repository having an entity structure which defines the metadata characteristics of a generic model data source (see column 10, lines 25-26 and lines 33-35);

accessing the data source to determine its construct (see column 10, lines 25-26);

configuring the data repository entities to reflect the construct of the data source(see column 10, lines 33-35); and

analyzing the data source in response to the configured data repository entities to obtain the source metadata (see column 10, lines 38-40).

As to claim 27, Weissman et al. discloses memory medium (see column 5, lines 14-16, memory medium reads on data mart), for storing program signals to be used in controlling the operation of one or more signal processors and associated signal memory, in determining the metadata (see column 5, lines 14-25) of a data source, the program signals controlling the signal processor in:

creating a data repository having an entity structure which defines the metadata characteristics of a generic model data source (see column 10, lines 25-26 and lines 33-35);

accessing the data source to determine its construct (see column 10, lines 25-26);

configuring the data repository entities to reflect the construct of the data source(see column 10, lines 33-35); and

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analyzing the data source in response to the configured data repository entities to obtain the source metadata (see column 10, lines 38-40).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 7-13, 20-26 and 33-39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weissman et al. in view of Critchlow et al. titled "Meta-Data Based Mediator Generation" copyright 1998 IEEE Doc# O-8186-8380-5/98, pages 168-175.

As to claims 7, 20 and 33, Weissman et al. teaches wherein:
the step of obtaining includes retrieving (see column 7, lines 52-54), as available from the data source, those elements of source data corresponding to the attributes of each of the database entity(see column 16, lines 61-64).

Weissman et al. does not teach the elements of source data corresponding to the attributes of each of the table entity, and the column entity.

Critchlow et al. teaches the elements of source data corresponding to the attributes of each of the table entity, and the column entity (see page 143, column 1, Mapping).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Weissman et al. to include the elements of source data corresponding to the attributes of each of the table entity, and the column entity.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Weissman et al. by the teaching of Critchlow et al. to include the elements of source data corresponding to the attributes of each of the table entity, and the column entity because there is always a direct mapping between database and abstraction attributes.

As to claims 8, 21 and 34, Weissman et al. as modified teaches wherein the step of obtaining further includes:
recording, in a first area of the data repository (see column 7, lines 52-54), those elements of source data received in the step of retrieving.

Weissman et al. as modified does not teach inferring therefrom the data source schema.

Critchlow et al. teaches inferring therefrom the data source schema (see fig 5, Abstraction to Data Definition in Translation Library).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Weissman et al. as modified wherein inferring therefrom the data source schema.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Weissman et al. as modified by the teaching of

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Critchlow et al. because inferring therefrom the data source schema allows defining them in a single location, so code re-use is encouraged and maintenance cost is reduced.

As to claims 9, 22 and 35, Weissman et al. teaches wherein:
the data repository entities include at least one each of a database analysis entity (see column 16, lines 61-64), a table analysis entity (see column 13, lines 25-30), and a column analysis entity (see column 13, lines 42-48), and wherein the step of analyzing includes, acquiring, by elemental examination of the data source schema, (see column 7, lines 52-54), those elements of source data corresponding to the metadata attributes of one or all of the database analysis entity (see column 16, lines 61-64);
recording, in a second area of the data repository (see column 7, lines 52-54), those elements of source data received in the step of acquiring.

Weissman et al. does not teach the elements of source data corresponding to the attributes of each of the table entity, and the column entity.

Critchlow et al. teaches the elements of source data corresponding to the attributes of each of the table entity, and the column entity (see page 143, column 1, Mapping).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Weissman et al. to include the elements of source data corresponding to the attributes of each of the table entity, and the column entity. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Weissman et al. by the teaching of Critchlow et al. to include the

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elements of source data corresponding to the attributes of each of the table entity, and the column entity because there is always a direct mapping between database and abstraction attributes.

Weissman et al. as modified does not teach inferring therefrom the data source schema.

Critchlow et al. teaches inferring therefrom the data source schema (see fig 5, Abstraction to Data Definition in Translation Library).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Weissman et al. as modified wherein inferring therefrom the data source schema.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Weissman et al. as modified by the teaching of Critchlow et al. because inferring therefrom the data source schema allows defining them in a single location, so code re-use is encouraged and maintenance cost is reduced.

As to claims 10, 23 and 36, Weissman et al. as modified does not teach as modified discloses further comprising: presenting the inferred data source schema for review by an operator; and modifying the inferred data source schema in response to command of the operator.

Critchlow et al. teaches presenting the inferred data source schema for review by an operator (page 173, column 1, these modification are made by DBA); and modifying the inferred data source schema in response to command of the operator (page 173, column 1, DBA must still explicitly enter any comments they wish to provide).

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Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Weissman et al. as modified wherein presenting the inferred data source schema for review by an operator; and modifying the inferred data source schema in response to command of the operator.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Weissman et al. as modified by the teaching of Critchlow et al. because presenting the inferred data source schema for review by an operator; and modifying the inferred data source schema in response to command of the operator allows defining them in a single location, so code re-use is encouraged and maintenance cost is reduced.

As to claims 11, 24 and 37, Weissman et al. as modified teaches wherein the elemental examination includes:

performing the step of acquiring the source data in an alternating sequence (see column 7, lines 52-56, the connector defines the access routine and the alternating sequence is programmed semantic definitions, as semantic definitions is defined by the consultant in the beginning of the process and not done iteratively within the extraction phase) receiving source data for an analysis entity (see column 8, lines 49-53, analysis entity read on staging table), making inferences based on the received source data for that entity, and permitting operator modification of the inferences made for that entity prior to receiving source data for a following data analysis entity (see column 14, lines 58-62), whereby the inferences made in each interval are antecedent to the inferences made in succeeding intervals.

As to claims 12, 25 and 38, Weissman et al. as modified teaches wherein the alternating sequence (see column 7, lines 52-56, the connector defines the access routine and the alternating sequence is programmed semantic definitions, as semantic definitions is defined by the consultant in the beginning of the process and not done iteratively within the extraction phase) is ordered to first receive those elements of source data associated with the column analysis entity (see column 14, lines 58-62, column analysis entity reads on dimension column number).

As to claims 13, 26 and 39, Weissman et al. as modified does not teach wherein the elements of source data associated with the table analysis entity are received following operator review of the inferences made in connection with the column analysis entity.

Critchlow et al. teaches the elements of source data associated with the table analysis entity (see page 172, column 2, last 5 lines, table reads on class) are received following operator review of the inferences made in connection with the column analysis entity (see page 172, column 2, last 5 lines, column reads on attributes).

Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Weissman et al. as modified wherein the elements of source data associated with the table analysis entity are received following operator review of the inferences made in connection with the column analysis entity.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have modified Weissman et al. as modified by the teaching of Critchlow et al. wherein the elements of source data associated with the table analysis entity are received following operator review of the inferences made in connection with the column analysis entity

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because the ability to include the analysis of the database improves the warehouse maintainability by reducing the potential of future confusion.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


Zamanian et al. (U.S. Patent# 6,339,775) discloses how data from a source data store is mapped and transformed into target data store in a data warehousing application.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shireen I Solaiman whose telephone number is 703-305-5893. The examiner can normally be reached on 8-6:30 M-Thur.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dov Popovici can be reached on 703-305-3830. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7239 for regular communications and 703-746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

SIS
July 15, 2002


DOV POPOVICI
SUPERVISORY PATENT EXAMINER
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